CLAIMS

We claim:

1. A method of treating a Gram-positive bacterial infection in a human or animal comprising administering to the human or animal a therapeutically active dosage of F_1F_0-ATP synthase inhibitor.
2. The method of Claim 1 where the Gram-positive bacterial infection is an infection caused by the group of bacteria including M. africanum, M. avium, M. bovis, M. bovis-BCG, M. chelonae, M. fortuitum, M. gordonae, M. intracellulare, M. kansasii, M. microti, M. scrofulaceum, M. paratuberculosis, M. leprae, M. tuberculosis, and M. ranae.
3. The method of Claim 2 wherein the F_1F_0-ATP synthase inhibitor is selected from a group including, but not limited to, IF_1, aurovertins, citreoviridin, citreoviridin acetate, quercetin, oligomycins, peliomycin, N,N'-Dicyclohexylcarbodiimide, venturicidins, trimethyl tin chloride, triethyl tin chloride, tri-n-propyl tin chloride, tri-n-butyl tin chloride, triphenyl tin chloride, DBCT, ossamycin, leucinostatin, and efrapeptins.
4. The method of Claim 3 where efrapeptins are selected from a group including, but not limited to oligopeptides with SEQ ID NOs: 1, 2, 3, 4, 5.
5. The method of Claim 1 wherein the F_1F_0-ATP synthase inhibitor binds to F_1F_0-ATP synthase.
6. The method of Claim 1 wherein the F_1F_0-ATP synthase inhibitor is capable of blocking the enzymatic activity of mitochondrial ATP synthase.

7. The method of Claim 1 wherein the F_1F_0-ATP synthase inhibitor is purified from culture filtrates, prepared by any recombinant means, proteolytic digestions, or chemical synthesis.
8. The method of Claim 1 wherein analogs or peptide fragments of F_1F_0-ATP synthase inhibitor containing portions of the amino acid sequence are prepared by any recombinant means, proteolytic digestions, or chemical synthesis.
9. The method of Claim 1 wherein the F_1F_0-ATP synthase inhibitor is capable of inhibiting the growth of or killing mycobacteria in a human or animal.
10. The method of Claim 1 wherein the F_1F_0-ATP synthase inhibitor can be administered with another antibiotic, to synergistically reduce or inhibit mycobacterial infections.
11. A method of treating a Gram-positive bacterial infection in a human or animal comprising administering to the human or animal a therapeutically active dosage of a composition designated as V-ATPase inhibitor.
12. The method of Claim 11 where the Gram-positive bacterial infection is an infection caused by the group of bacteria including M. africanum, M. avium, M. bovis, M. bovis-BCG, M. chelonae, M. fortuitum, M. gordonae, M. intracellulare, M. kansasii, M. microti, M. scrofulaceum, M. paratuberculosis, M. leprae, M. tuberculosis, and M. ranae.
13. A method for determining whether a molecule inhibits the growth of Gram positive bacteria in a mammal by inhibiting the enzymatic activity of F_1F_0-ATP synthase, the method comprising of the a screening assay in which the possible inhibition of F_1F_0-ATP synthase by the molecule is determined by adding the

substance to a system comprising immobilized F_1F_0-ATP synthase and soluble ATP, enzymatic activity detected by coupling the production of ADP to the oxidation of NADH via pyruvate kinase and lactate hydrogenase reactions.